

REMARKS

The applicants have considered the Office action dated August 23, 2007, and references it cites. By way of this response, claims 1, 12, 22 and 26 have been amended. Accordingly, claims 1-28 are pending and at issue, of which claims 1, 12, 22 and 26 are independent. In view of the foregoing amendments and the following remarks, it is respectfully submitted that the pending claims are in condition for allowance and favorable reconsideration is respectfully requested.

Claims 1-11: Rejection under 35 U.S.C. § 103

The Office action rejected original independent claim 1 under 35 U.S.C § 103(a) as being unpatentable over *Chou* (U.S. Patent No. 5,892,906) in view of *England* (U.S. Patent No. 6,327,652), *Patel* (U.S. Patent No. 6,327,660) and *Zitlaw* (U.S. Application Pub. No. 2004/0128425).

Independent claim 1, as amended, now recites a method of receiving a password comprising: receiving a password routine, the password routine being digitally signed using a private key; authenticating the password routine using a public key associated with the private key; storing the password routine in a first area of a memory device, the first area of the memory device being unavailable to a memory management unit, the memory device including a second area, the second area being available to the memory management unit; executing a monitor routine at a first privilege level to secure a pre-boot environment; and executing the password routine at a second privilege level in the pre-boot environment to receive the password, wherein the first and second privilege levels are different.

The Office action asserts a combination of *Chou, England, Patel* and *Zitlaw* to find original independent claim 1 obvious under 35 U.S.C. § 103(a). To reject a claim based on a combination of prior art elements, the U.S.P.T.O. requires that the Office action articulate:

(1) a finding that the prior art included *each element* claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;

(2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely would have performed the same function as it did separately;

(3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; and

(4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

Examination Guidelines for Determining Obviousness Under

35 U.S.C. 103 in View of the Supreme Court Decision in KSR

International Co. v. Teleflex Inc., 72 Fed. Reg. 57526, 57529

(Oct. 10, 2007) (emphasis added).

“If any of these findings cannot be made, then [the combination of prior art elements] cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.” *Id.*

Here, the cited prior art combination of *Chou, England, Patel* and *Zitlaw* does not include each element of amended independent claim 1. In particular, independent claim 1, as now amended, recites a method of receiving a password comprising, *inter alia*, executing a monitor routine at a first privilege level to secure a pre-boot environment, and executing a password routine at a second privilege level in the pre-boot environment to

receive the password, wherein the first and second privilege levels are different. In contrast, none of *Chou*, *England*, *Patel* and *Zitlaw* describes or fairly suggests executing a monitor routine at a first privilege level to secure a pre-boot environment or executing a password routine at a second privilege level in the pre-boot environment to receive the password, wherein the first and second privilege levels are different. Therefore, a finding that the cited prior art included each element claimed in amended claim 1 cannot be made.

Because the cited prior art combination of *Chou*, *England*, *Patel* and *Zitlaw* does not meet the U.S.P.T.O.'s first required finding that the prior art included each element claimed, this combination cannot be used to support a conclusion that amended independent claim 1 is obvious. 72 Fed. Reg. at 57529. The applicants, therefore, respectfully request that the rejection of claim 1 under 35 U.S.C § 103(a) be withdrawn. Furthermore, the applicants respectfully submit that pending claim 1, as amended, and claims 2-11 depending therefrom are in condition for allowance. Favorable reconsideration is respectfully requested.

Claims 12-21: Rejection under 35 U.S.C. § 103

The Office action rejected original independent claim 12 under 35 U.S.C § 103(a) as being unpatentable over *Chou* in view of *Patel* and *Zitlaw*.

Independent claim 12, as amended, now recited an apparatus to execute a trusted software program in a pre-boot environment, the apparatus comprising: a memory device including a first memory portion and a second memory portion, the first memory portion storing the trusted software program; a memory management unit operatively coupled to the memory device, the memory management unit being unable to access the first memory

portion, the memory management unit being able to access the second memory portion; and a processor operatively coupled to the memory device, the processor to execute the trusted software program in the pre-boot environment, wherein the processor is configured to secure an address of the memory device to prevent another software program from accessing the first memory portion during execution of the trusted software program.

The Office action asserts a combination of *Chou*, *Patel* and *Zitlaw* to find original independent claim 12 obvious under 35 U.S.C § 103(a). However, similar to the rejection of claim 1, the cited prior art combination of *Chou*, *Patel* and *Zitlaw* does not include each element of amended independent claim 12.

In particular, independent claim 12, as now amended, recites an apparatus to execute a trusted software program in a pre-boot environment comprising, *inter alia*, a processor to execute the trusted software program in the pre-boot environment, wherein the processor is configured to secure an address of a memory device to prevent another software program from accessing a first memory portion during execution of the trusted software program. In contrast, none of *Chou*, *Patel* and *Zitlaw* describes or fairly suggests a processor to execute the trusted software program in the pre-boot environment, wherein the processor is configured to secure an address of a memory device to prevent another software program from accessing a first memory portion during execution of the trusted software program. Therefore, a finding that the cited prior art included each element claimed in amended claim 12 cannot be made.

Because the cited prior art combination of *Chou*, *Patel* and *Zitlaw* does not meet the U.S.P.T.O.'s first required finding that the prior art included each element claimed, this combination cannot be used to support a conclusion that amended independent claim 12 is obvious. 72 Fed. Reg. at 57529. The applicants, therefore, respectfully request that the rejection of claim 12 under 35 U.S.C § 103(a) be withdrawn. Furthermore, the applicants respectfully submit that pending claim 12, as amended, and claims 13-21 depending therefrom are in condition for allowance. Favorable reconsideration is respectfully requested.

Claims 22-25: Rejection under 35 U.S.C. § 103

The Office action rejected original independent claim 22 under 35 U.S.C § 103(a) as being unpatentable over *Chou* in view of *Patel* and *Zitlaw*.

Independent claim 22, as amended, now recites an apparatus to collect a password in a pre-boot environment, the apparatus comprising: a memory device including a first memory portion and a second memory portion, the second memory portion storing a keyboard driver, a display driver, graphics routine, and a password collection routine; a memory management unit operatively coupled to the memory device, the memory management unit being able to access the first memory portion, the memory management unit being unable to access the second memory portion; and a processor operatively coupled to the memory device, the processor to execute a monitor routine at a first privilege level to secure the pre-boot environment and to execute the keyboard driver, the display driver, the graphics routine, and the password collection routine at a second privilege level in the pre-boot

environment to collect the password in the pre-boot environment, wherein the first and second privilege levels are different.

The Office action asserts a combination of *Chou*, *Patel* and *Zitlaw* to find original independent claim 22 obvious under 35 U.S.C § 103(a). However, similar to the rejections of claims 1 and 12, the cited prior art combination of *Chou*, *Patel* and *Zitlaw* does not include each element of amended independent claim 22.

In particular, independent claim 22, as now amended, recites an apparatus to collect a password in a pre-boot environment comprising, *inter alia*, a processor to execute a monitor routine at a first privilege level to secure the pre-boot environment and to execute a keyboard driver, a display driver, a graphics routine, and a password collection routine at a second privilege level in the pre-boot environment to collect the password in the pre-boot environment, wherein the first and second privilege levels are different. In contrast, none of *Chou*, *Patel* and *Zitlaw* describe or fairly suggest a processor to execute a monitor routine at a first privilege level to secure the pre-boot environment and to execute a keyboard driver, a display driver, a graphics routine, and a password collection routine at a second privilege level in the pre-boot environment to collect the password in the pre-boot environment, wherein the first and second privilege levels are different. Therefore, a finding that the cited prior art included each element claimed in amended claim 22 cannot be made.

Because the cited prior art combination of *Chou*, *Patel* and *Zitlaw* does not meet the U.S.P.T.O.'s first required finding that the prior art included each element claimed, this combination cannot be used to support a conclusion that

amended independent claim 22 is obvious. 72 Fed. Reg. at 57529. The applicants, therefore, respectfully request that the rejection of claim 22 under 35 U.S.C § 103(a) be withdrawn. Furthermore, the applicants respectfully submit that pending claim 22, as amended, and claims 23-25 depending therefrom are in condition for allowance. Favorable reconsideration is respectfully requested.

Claims 26-28: Rejection under 35 U.S.C. § 103

The Office action rejected original independent claim 26 under 35 U.S.C § 103(a) as being unpatentable over *Chou* in view of *England*, *Patel* and *Zitlaw*.

Independent claim 26, as amended, now recites a machine readable medium storing instructions structured to cause a machine to: receive a password routine, the password routine being digitally signed using a private key; authenticate the password routine using a public key associated with the private key; store the password routine in a first area of a memory device, the first area of the memory device being unavailable to a memory management unit, the memory device including a second area, the second area being available to the memory management unit; execute the password routine in a pre-boot environment to receive the password; and secure an address of the memory device to prevent another software program from accessing the first area of the memory device during execution of the password routine.

The Office action asserts a combination of *Chou*, *England*, *Patel* and *Zitlaw* to find original independent claim 26 obvious under 35 U.S.C § 103(a). However, similar to the rejections of claims 1, 12 and 22, the cited prior art

combination of *Chou, England, Patel* and *Zitlaw* does not include each element of amended independent claim 26.

In particular, independent claim 26, as now amended, recites a machine readable medium storing instructions structured to cause a machine to, *inter alia*, execute a password routine in a pre-boot environment to receive a password, and secure an address of a memory device to prevent another software program from accessing a first area of the memory device during execution of the password routine. In contrast, none of *Chou, England, Patel* and *Zitlaw* describes or fairly suggests securing an address of a memory device to prevent another software program from accessing a first area of the memory device during execution of a password routine in a pre-boot environment. Therefore, a finding that the cited prior art included each element claimed in amended claim 26 cannot be made.

Because the cited prior art combination of *Chou, England, Patel* and *Zitlaw* does not meet the U.S.P.T.O.'s first required finding that the prior art included each element claimed, this combination cannot be used to support a conclusion that amended independent claim 26 is obvious. 72 Fed. Reg. at 57529. The applicants, therefore, respectfully request that the rejection of claim 26 under 35 U.S.C § 103(a) be withdrawn. Furthermore, the applicants respectfully submit that pending claim 26, as amended, and claims 27-28 depending therefrom are in condition for allowance. Favorable reconsideration is respectfully requested.

Consideration of Applicants' Previous Arguments

In the response to the previous Office action dated March 7, 2007, the applicants explained that original claims 1 and 26 were non-obvious because

each of these claims “incorporates new functionality into its elements that yields unexpected and fruitful results.” Response to the Office Action Dated March 7, 2007, p. 9 (U.S. App. Ser. No. 10/606,144, June 7, 2007). In particular, the applicants argued that “the type of prior art memory management unit [described in *Zitlaw* and] relied upon by the Office action seemingly operates *to provide access* to memory devices or portions (e.g., areas) of memory devices. It would be counterintuitive and, therefore, unexpected, ... to combine such a memory management unit and a memory device so that the memory management unit would intentionally *not be able to access* an area of the memory device. However, it is this same ‘unexpected’ manner of combination that yields the ‘fruitful’ method of receiving a password recited by independent claim 1 [and independent claim 26].” *Id.* at pp. 8-9 (emphasis added). The current Office action failed to consider this line of reasoning on the grounds that it did not comply with 37 CFR § 1.111(b).

37 CFR § 1.111(b) provides that an applicant’s response to an Office action “must present arguments pointing out the specific distinctions believed to render the claims ... patentable over any applied references.” 37 CFR § 1.111(b) further provides that “[a] general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section.” Furthermore, in its own guidelines, the U.S.P.T.O. explicitly directs that, in response to an Office action’s finding of obviousness, the applicant may “provide other evidence to show that the claimed subject matter would have been nonobvious.” 72 Fed. Reg. at 57534.

Additionally, the U.S.P.T.O. explicitly recognizes that such “[r]ebuttal evidence may include ... evidence of unexpected results.” *Id.* Therefore, according to the U.S.P.T.O.’s own guidelines, rebuttal evidence of unexpected results is proper under 37 CFR § 1.111(b).

In light of the U.S.P.T.O.’s guidelines and the rule’s plain language, the applicants’ previous argument does comply with 37 CFR § 1.111(b) and should have been considered in the current Office action. Applicants’ argument pointed to the language in claims 1 and 26 corresponding to the memory management unit, the memory management unit being unable to access a first area of a memory device, and the combination of the memory device and the memory management unit. The applicants’ provided rebuttal evidence, namely in the form of the cited prior art of *Zitlaw* itself, to show that combining the memory device and the memory management unit “so that the memory management unit would intentionally *not be able to access* an area of the memory device” is counterintuitive given *Zitlaw* and, thus, yields unexpected results. Such evidence pointing out the specific distinctions yielding unexpected results to show the claims are non-obviousness is certainly proper under 37 CFR § 1.111(b), especially in light of the U.S.P.T.O.’s own guidelines.

Applicants’ previous argument that original claims 1 and 26 were non-obvious because each these claims “incorporates new functionality into its elements that yields unexpected and fruitful results” is still applicable to the pending amended claims 1 and 26. For example, this showing of unexpected results would rebut the U.S.P.T.O.’s third required finding for obviousness, if one were provided, that “one of ordinary skill in the art would have recognized

that the results of the combination were *predictable*.” 72 Fed. Reg. at 57529 (emphasis added). Certainly, unexpected results cannot be predictable. As such, this argument further bolsters the conclusion that the rejection of claims 1 and 26 under 35 U.S.C § 103(a) should be withdrawn because the required findings for obviousness cannot be made. *Id.* Favorable reconsideration of these claims and all claims depending therefrom is, therefore, respectfully requested.

If the examiner is of the opinion that a telephone conference would expedite the prosecution of this case, the examiner is invited to contact the undersigned at the number identified below.

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